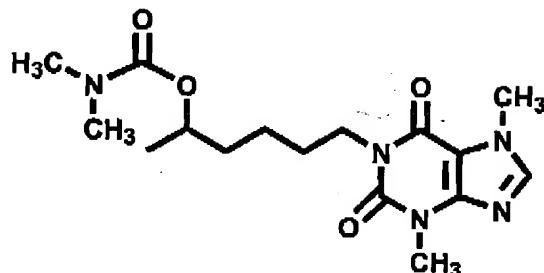
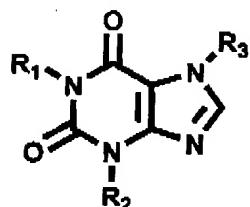


1. A compound having the following structure:

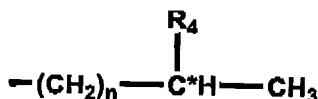


or a structure according to formula I:



I

wherein R₁ has the formula II:



R₂ and R₃ are independently C₍₁₋₁₂₎ alkyl, optionally, R₂ having one or two nonadjacent carbon atoms of the C₍₁₋₁₂₎ alkyl being replaced by an oxygen atom; and wherein:

C* is a chiral carbon atom;

n is four;

R₄ is a naturally occurring amino acid or a carbohydrate moiety attached by an oxygen atom to the chiral carbon atom C* by an ester linkage, -O-X-(R₅)_m; m being two or three, depending on valence, and X being selected from the group consisting of C, P or S; wherein one R₅ is =O and any other R₅ is a member independently selected from Group Q,

~~and carbohydrate moiety is selected from the group consisting of glucosyl, glucosidyl, galactosyl, glucopyranosidyl, glyceraldehydyl, erythrosyl, arabinosyl, ribuloseosyl, fructosyl, erythritol, xylosyl, lyxosyl, allosyl, altrosyl, mannosyl, mannosidyl, galactosyl, idesyl, galactosyl and talosyl, and~~

Group Q consists of:

hydroxyl group;

substituted or unsubstituted $C_{(3-10)}$ alkyl, $C_{(2-10)}$ alkenyl, $C_{(2-10)}$ alkynyl, $C_{(1-10)}$ alkoxy, $C_{(1-10)}$ oxoalkyl, $C_{(1-10)}$ carboxyalkyl, $C_{(1-10)}$ hydroxyalkyl, or substituted $C_{(1-2)}$ alkyl group;

$-CR_6$, R_6 being a substituted or unsubstituted $C_{(1-10)}$ alkyl, $C_{(2-10)}$ alkenyl, $C_{(2-10)}$ alkynyl, or $C_{(1-10)}$ oxoalkyl;

substituted or unsubstituted heterocyclic group, attached to X through an atom within the ring, having one or two rings, each ring containing from four to seven atoms, wherein the heteroatom(s) of said heterocyclic group is 1 or 2 nitrogens; and

substituted or unsubstituted carbocyclic group that is attached to X through a carbon atom within a ring, having one or two rings, each ring containing four to seven atoms, wherein the substituents of said substituted carbocyclic group are selected from the group consisting of amino, $C_{(2-6)}$ alkenyl, $C_{(1-6)}$ alkyl, $C_{(1-6)}$ alkoxy, $C_{(1-6)}$ hydroxyalkyl, hydroxyl, $C_{(1-6)}$ oxoalkyl, azido, cyano, $C_{(2-6)}$ mono- or di-haloalkyl, isocyano, isothiocyanato, imino, a chlorine atom, a bromine atom, a fluorine atom and an oxygen atom.

2. The compound of claim 1, wherein the amino acid is selected from the group consisting of: alaninyl, argininyl, asparaginyl, aspartyl, cysteinyl, glutaminyl, glutamyl, glycinyl, histidinyl, isoleucinyl, leucinyl, lysinyl, methioninyl, phenylalaninyl, prolinyl, serinyl, threoninyl, tryptophanyl, tyrosinyl and valinyl.

4. The compound of claim 1, wherein X is C.

6. The compound of claim 1, wherein substituents for the substituted $C_{(1-10)}$ alkyl, $C_{(2-10)}$ alkenyl, $C_{(2-10)}$ alkynyl, $C_{(1-10)}$ alkoxy, $C_{(1-10)}$ oxoalkyl, or heterocyclic groups are selected from the group consisting of amino, $C_{(2-6)}$ alkenyl, $C_{(1-6)}$ alkyl, $C_{(1-6)}$ alkoxy, $C_{(1-6)}$ hydroxyalkyl, $C_{(1-6)}$ oxoalkyl, azido, C -carboxylic acid moiety, cyano, $C_{(1-6)}$ haloalkyl, isocyano, isothiocyanato, imino, alkylthio, or a chlorine, bromine, fluorine and oxygen atom.

7. The compound of claim 6, wherein the $C_{(1-6)}$ haloalkyl is a mono-, di- or tri haloalkyl and the $C_{(1-6)}$ alkoxy is a methoxy or ethoxy group.

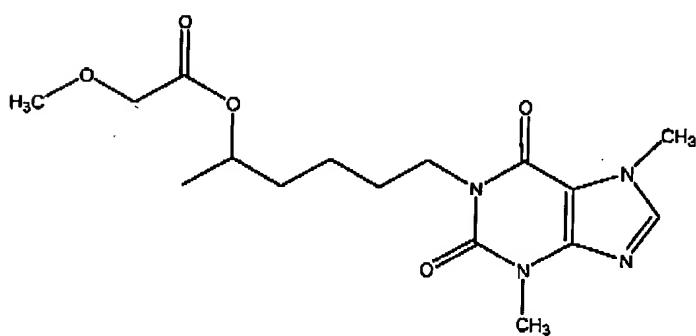
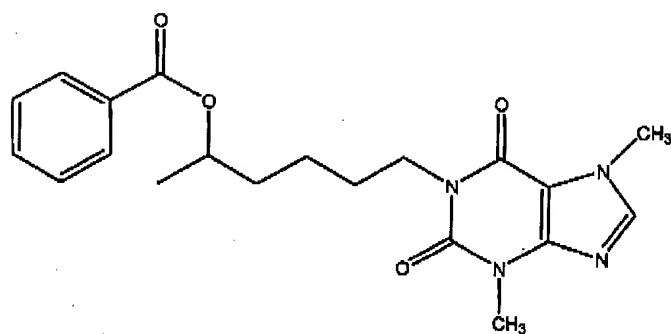
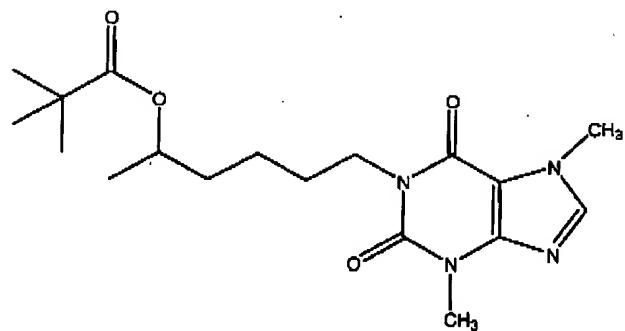
9. The compound of claim 1, wherein one or two, nonadjacent carbon atoms of R_2 are replaced with oxygen atoms.

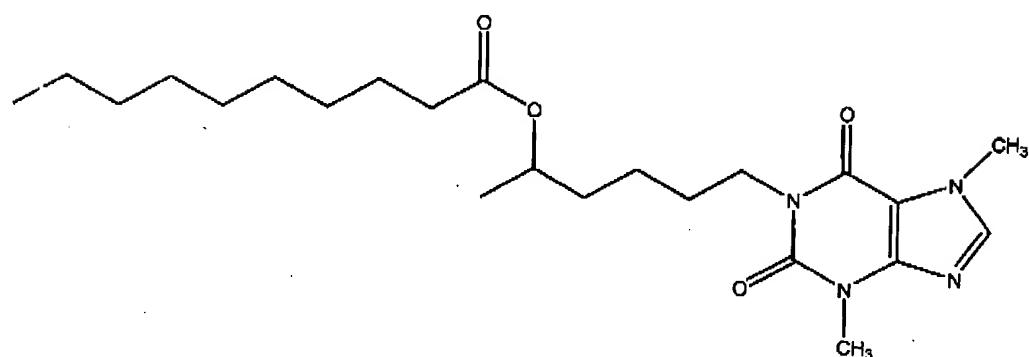
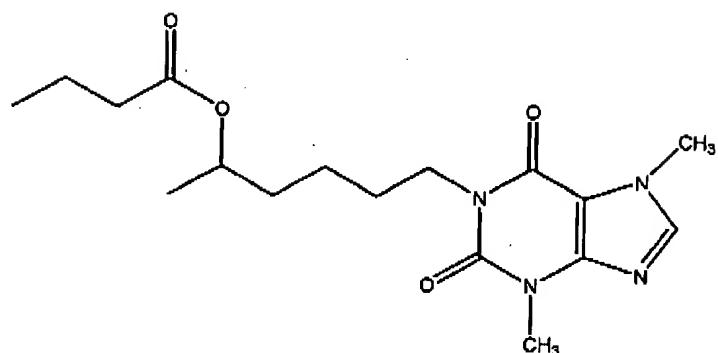
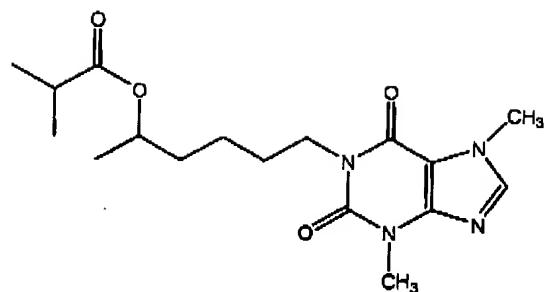
10. The compound of claim 1, wherein the carbocyclic or heterocyclic group is selected from the group consisting of benzyl, phenyl, biphenyl, cyclohexyl, cyclohexenyl, cyclopentyl, cyclopentenyl, cyclopentanedionyl, naphthalenyl, phenolyl, quinonyl, cyclobutyl, cycloheptyl, cycloheptenyl, indanyl, indenyl, decalinyl, resorcinolyl, tetalinyl, α -tetalonyl, 1-indanonyl, cyclohexanedionyl, cyclopentanedionyl, dimethylxanthinyl, methylxanthinyl, phthalimidyl, homophthalimidyl, quinazolinonyl, glutarimidyl, piperidonyl, succinimidyl, dimethoxyphenyl, methyldihydrouracilyl, methyluracilyl, methylthyminyl, piperidinyl, dihydroxybenzenyl, methylpurinyl, methylxanthinyl and dimethylxanthinyl.

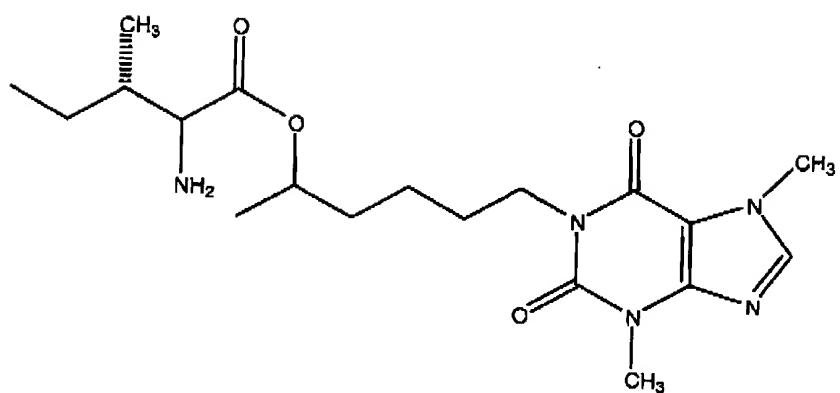
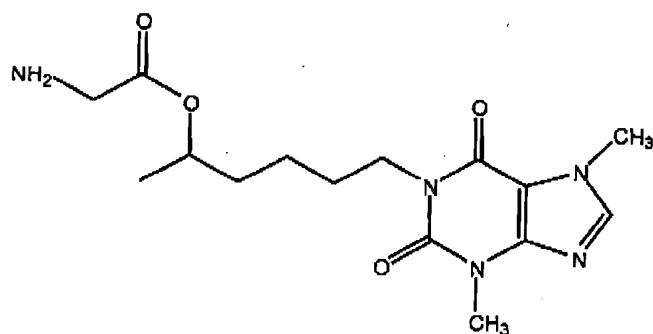
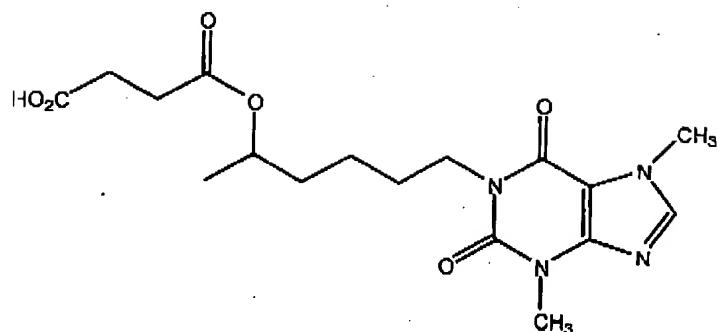
12. The compound of claim 11, wherein the other R_s , other than =O, is trimethoxy-substituted phenyl.

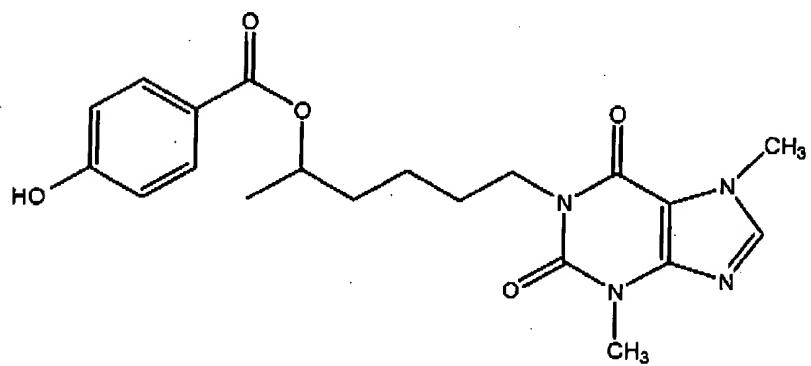
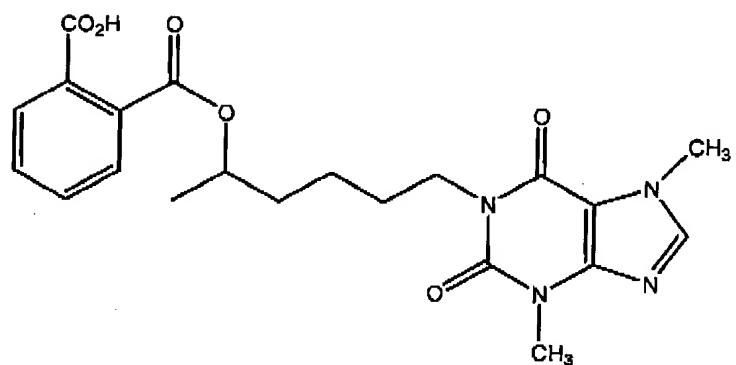
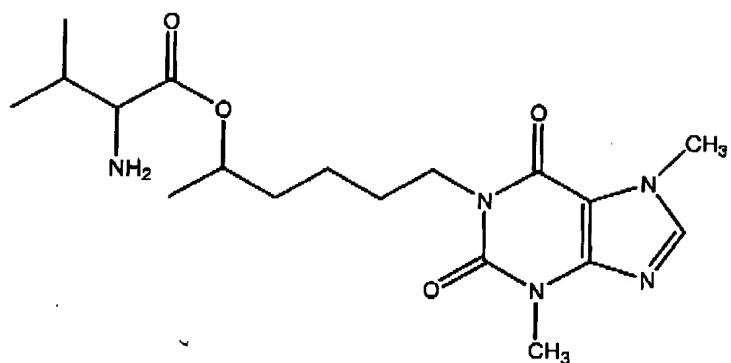
13. The compound of claim 1, wherein R_4 is glycanyl, isoleucanyl or valanyl.

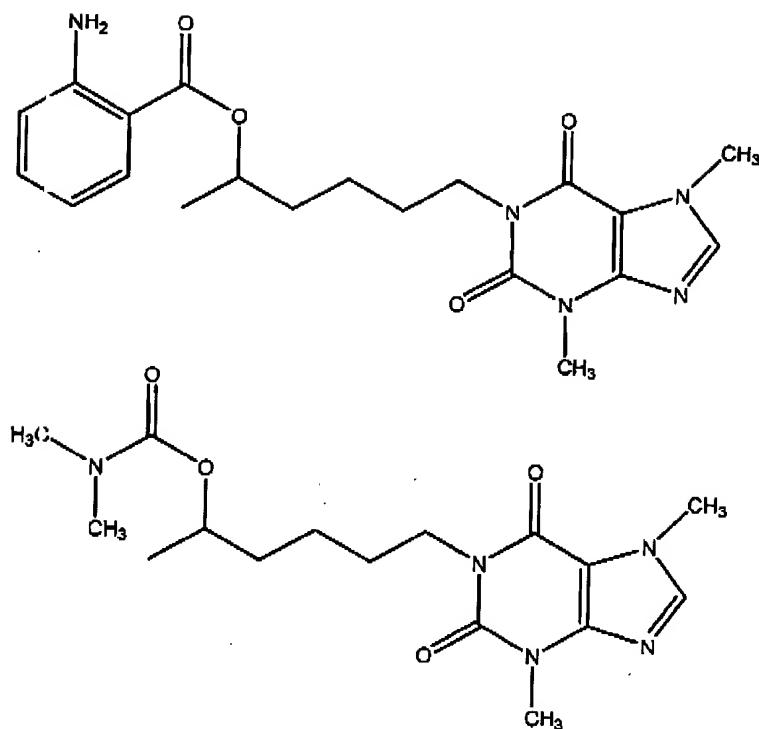
14. The compound of claim 1, wherein said compound is selected from:



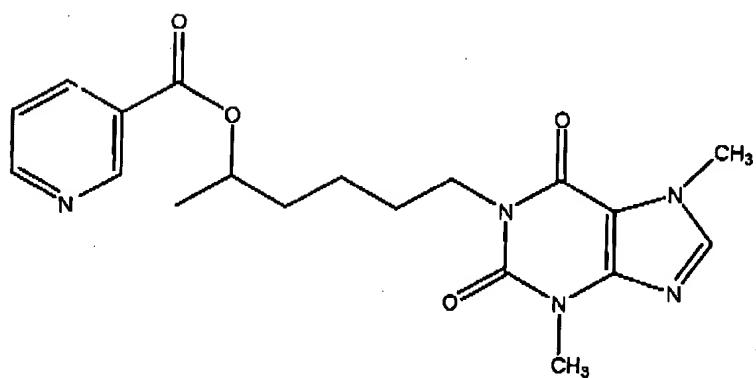




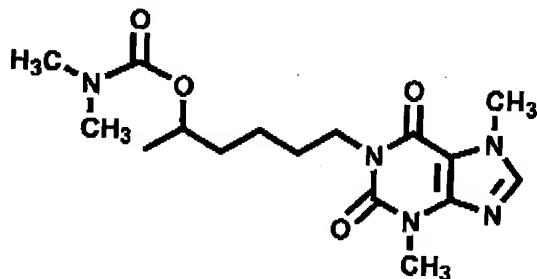




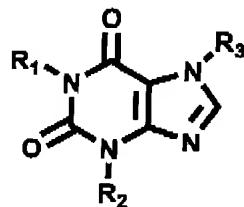
and



15. A pharmaceutical composition comprising a pharmaceutically acceptable excipient or carrier and a compound having the following structure:

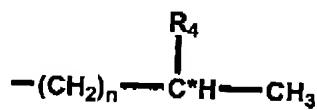


or a structure according to formula I:



I

wherein R₁ has the formula II:



R₂ and R₃ are independently C₍₁₋₁₂₎ alkyl, optionally, R₂ having one or two nonadjacent carbon atoms of the C₍₁₋₁₂₎ alkyl being replaced by an oxygen atom; and wherein:

C* is a chiral carbon atom;

n is four;

R₄ is a naturally occurring amino acid or a carbohydrate moiety attached by an oxygen atom to the chiral carbon atom C* by an ester linkage, -O-X-(R₅)_m; X being selected from the group consisting of C, P or S; m being two or three, depending on valence, and X being selected from the group consisting of C, P or S; wherein one R₅ is =O and any other R₅ is a member independently selected from Group Q.

~~and carbohydrate moiety is selected from the group consisting of glucosyl, glucosidyl, maltosyl, glucoheptosyl, glucoheptanoseidyl, glycerolaldehydeidyl, erythrosyl, arabinoxylosyl, ribuloseidyl, fructosyl, erythritol, xylosyl, lyxosyl, allosyl, altrosyl, mannosyl, mannosidyl, galactosyl, idesyl, galactosyl and talesyl; and~~

Group Q consists of:

hydroxyl group;

substituted or unsubstituted C₍₃₋₁₀₎ alkyl, C₍₂₋₁₀₎ alkenyl, C₍₂₋₁₀₎ alkynyl, C₍₁₋₁₀₎ alkoxy, C₍₁₋₁₀₎ oxoalkyl, C₍₁₋₁₀₎ carboxyalkyl, C₍₁₋₁₀₎ hydroxyalkyl, or substituted C₍₁₋₂₎ alkyl group;

-OR₆, R₆ being a substituted or unsubstituted C₍₁₋₁₀₎ alkyl, C₍₂₋₁₀₎ alkenyl, C₍₂₋₁₀₎ alkynyl, or C₍₁₋₁₀₎ oxoalkyl;

substituted or unsubstituted heterocyclic group, attached to X through an atom within the ring, having one or two rings, each ring containing from four to seven atoms, wherein the heteroatom(s) of said heterocyclic group is 1 or 2 nitrogens; and

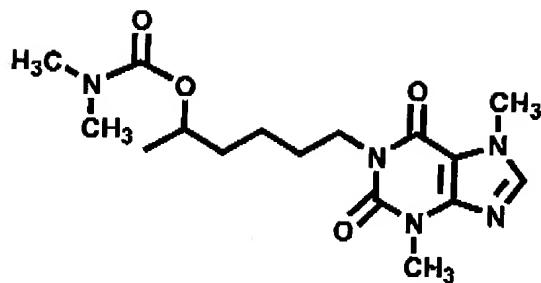
substituted or unsubstituted carbocyclic group that is attached to X through a carbon atom within a ring, having one or two rings, each ring containing four to seven atoms, wherein the substituents of said substituted carbocyclic group are selected from the group consisting of amino, C₍₂₋₆₎ alkenyl, C₍₁₋₆₎ alkyl, C₍₁₋₆₎ alkoxy, C₍₁₋₆₎ hydroxyalkyl, hydroxyl, C₍₁₋₆₎ oxoalkyl, azido, cyano, C₍₂₋₆₎ mono- or di-haloalkyl, isocyano, isothiocyanato, imino, a chlorine atom, a bromine atom, a fluorine atom and an oxygen atom.

16. The pharmaceutical composition of claim 15, wherein the pharmaceutical composition is formulated for oral administration.

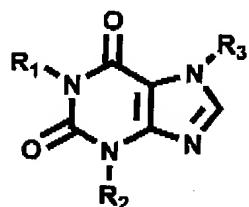
18. The pharmaceutical composition of claim 15, wherein R₅ is trimethoxy-substituted phenyl.

19. The pharmaceutical composition of claim 15, wherein R₄ is glycyl, isoleucyl or valinyl.

20. A compound having the following structure:

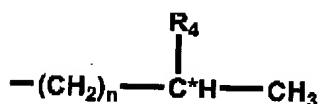


or a structure according to formula I:



I

wherein R₁ or R₂ has the formula II:



R₁ or R₂, which is other than formula II, and R₃ are independently C₍₁₋₁₂₎ alkyl, optionally, R₂ having one or two nonadjacent carbon atoms of the C₍₁₋₁₂₎ alkyl being replaced by an oxygen atom; and wherein:

C* is a chiral carbon atom;

n is four;

R₄ is a naturally occurring amino acid or a carbohydrate moiety attached by an oxygen atom to the chiral carbon atom C* by an ester linkage, -O-X-(R₅)_m; m being two or three, depending on valence, and X being selected from the group consisting of C, P or S; wherein one R₅ is =O and any other R₅ is a member independently selected from Group Q,

~~stid carbohydrate moiety is selected from the group consisting of glucosyl, glucosidyl, maltosyl, glucopyranosidyl, glyceraldehydyl, erythrosyl, arabinosyl, ribuloseyl, fructosyl, erythritolyl, xylosyl, lyxosyl, allosyl, altrosyl, mannosyl, mannosidyl, galactosyl, idosyl, galactosyl and talosyl, and~~

Group Q consists of:

hydroxyl group;

substituted or unsubstituted $C_{(3-10)}$ alkyl, $C_{(2-10)}$ alkenyl, $C_{(2-10)}$ alkynyl, $C_{(1-10)}$ alkoxy, $C_{(1-10)}$ oxoalkyl, $C_{(1-10)}$ carboxyalkyl, $C_{(1-10)}$ hydroxyalkyl, or substituted $C_{(1-2)}$ alkyl group;

- OR_6 , R_6 being a substituted or unsubstituted $C_{(1-10)}$ alkyl, $C_{(2-10)}$ alkenyl, $C_{(2-10)}$ alkynyl, or $C_{(1-10)}$ oxoalkyl;

substituted or unsubstituted heterocyclic group, attached to X through an atom within the ring, having one or two rings, each ring containing from four to seven atoms, wherein the heteroatom(s) of said heterocyclic group is 1 or 2 nitrogens; and

substituted or unsubstituted carbocyclic group that is attached to X through a carbon atom within a ring, having one or two rings, each ring containing four to seven atoms, wherein the substituents of said substituted carbocyclic group are selected from the group consisting of amino, $C_{(2-6)}$ alkenyl, $C_{(1-6)}$ alkyl, $C_{(1-6)}$ alkoxy, $C_{(1-6)}$ hydroxyalkyl, hydroxyl, $C_{(1-6)}$ oxoalkyl, azido, cyano, $C_{(2-6)}$ mono- or di-haloalkyl, isocyano, isothiocyanato, imino, a chlorine atom, a bromine atom, a fluorine atom and an oxygen atom.

21. A compound according to claim 1, wherein R_2 and R_3 are methyl, and wherein R_6 is a

substituted or unsubstituted $C_{(1-10)}$ alkyl, $C_{(2-10)}$ alkenyl, $C_{(2-10)}$ alkynyl, or $C_{(1-10)}$ oxoalkyl;

substituted or unsubstituted heterocyclic group, attached to X through an atom within the ring, having one or two rings, each ring containing from four to seven atoms, and a single nitrogen as the heteroatom; or

substituted or unsubstituted carbocyclic group that is attached to X through a carbon atom within a ring, having one ring containing four to seven atoms, wherein the substituents of said substituted carbocyclic group are selected from the group consisting of amino, $C_{(2-6)}$ alkenyl, $C_{(1-6)}$ alkyl, $C_{(1-6)}$ alkoxy, $C_{(1-6)}$ hydroxyalkyl, hydroxyl, $C_{(1-6)}$ oxoalkyl, azido, cyano, $C_{(2-6)}$ mono- or di-haloalkyl, isocyano, isothiocyanato, imino, a chlorine atom, a bromine atom, a fluorine atom and an oxygen atom.

23. A compound according to claim 1, wherein R_3 is methyl.

24. A compound according to claim 23, wherein R_2 is methyl.

25. A compound according to claim 24, wherein X is S.

26. A compound according to claim 25, wherein members of Group Q are independently selected from the group consisting of an hydroxyl group; =O; substituted or unsubstituted C₍₃₋₁₀₎ alkyl, C₍₂₋₁₀₎ alkenyl, C₍₂₋₁₀₎ alkynyl, C₍₁₋₁₀₎ alkoxy, C₍₁₋₁₀₎ oxoalkyl, C₍₁₋₁₀₎ carboxyalkyl, C₍₁₋₁₀₎ hydroxyalkyl; and a substituted C₍₁₋₂₎ alkyl group.

27 A compound according to claim 26, wherein the other R₅ is OH.